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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,649	08/19/2003	Peter Deane	PAT 2139-2-US	3737

26123 7590 04/20/2007
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EXAMINER

TSEGAYE, SABA

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/642,649

Applicant(s)

DEANE ET AL.

Examiner

Saba Tsegaye

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/20/03 & 08/09/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Scott (US 6,522,642 B1).

Regarding claims 1 and 12, Scott discloses, in figs. 2 and 4, an apparatus for processing N number of input signals having a common frequency, said apparatus comprising:

at least N-1 number of modulators for modulating N-1 of said N number of input signals into N-1 number of modulated signals (column 3, lines 34-47);

a combiner for combining said modulated signals along with one non-modulated signal into an aggregate signal (column 4, lines 32-35);

at least N-1 number of circulators for receiving at least part of said aggregate signal (column 4, lines 32-47);

N-1 number of demodulators for demodulating said aggregate signal, each said demodulator corresponding to one of said modulators (column 6, lines 1-6; column 13, lines 16-25); and

N number of duplexer filters each corresponding to one of said N number of input signals (column 4, line 65-column 15, line 11);

Art Unit: 2616

wherein said circulators, said demodulators, and said duplexer filters, are arranged so as to pass N number of demodulated portions of said aggregate signal to a corresponding output and each of said demodulated portions being substantially identical to one of said N number of input signals (column 4, line 65-column 15, line 11).

Regarding claim 2, Scott discloses the apparatus wherein said aggregate signal passes serially through said circulators and said demodulators beginning with a first one of said circulators and ending with a last one of said demodulators (column 11, lines 1-25).

Regarding claim 3, Scott discloses the apparatus wherein said first one of said circulators is coupled to one of said duplexer filters arranged to pass said one non-modulated signal (see figs. 2 and 4).

Regarding claim 4, Scott discloses the apparatus wherein a length of cabling is placed between said combiner and said first one of said circulators (see figs. 2 and 4).

Regarding claim 5, Scott discloses the apparatus wherein said length of cabling spans at least a portion of an antenna structure (column 9, lines 20-28).

Regarding claim 6, Scott discloses the apparatus, further including a plurality of amplifiers each located such that said input signals pass through a respective one of said plurality

Art Unit: 2616

of amplifiers prior to passing through said at least N-1 number of modulators (column 3, lines 7-11; column 4, lines 35-40).

Regarding claims 7, 13 and 14, Scott discloses the apparatus wherein said input signals are forward link transmissions and said plurality of amplifiers are high power amplifiers (column 4, lines 35-40; column 6, lines 45-51).

Regarding claims 8 and 15, Scott discloses the apparatus wherein said input signals are reverse link transmissions and said pluralities of amplifiers are low power preamplifiers (column 6, lines 45-51).

Regarding claims 9 and 16, Scott discloses the apparatus wherein said input signals are forward link transmissions and said apparatus further includes a single high power amplifier for amplifying said aggregate signal, said high power amplifier located between said combiner and said length of cabling (column 6, lines 45-51).

Regarding claims 10 and 17, Scott discloses the apparatus wherein said modulators and said demodulators operate via a modulation scheme using Walsh codes (column 12, lines 40-50).

Regarding claims 11 and 18, Scott discloses the apparatus wherein said modulators and said demodulators operate via a modulation scheme using Serrodyne (column 4, lines 61-64).

Art Unit: 2616

Regarding claim 19, Scott discloses an apparatus for processing N number of modulated, combined, and amplified input signals having a common frequency, said apparatus comprising:

a demodulator for demodulating an amplified aggregate signal consisting of said input signals, said demodulator including (column 6, lines 1-6; column 13, lines 16-25),

a least N-1 number of circulators for receiving at least part of said aggregate signal;
N-1 number of demodulators for demodulating said aggregate signal (column 11, lines 1-25);
and

N number of duplexer filters each corresponding to one of said N number of input signals (column 4, line 65-column 15, line 11);

wherein said circulators, said demodulators, and said duplexer filters are arranged so as to pass N number of demodulated portions of said aggregate signal to a corresponding output, each of said demodulated portions being substantially identical to one of said N number of input signals (column 4, line 65-column 15, line 11).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Poon et al. US 6,192,070 B1) disclose universal modem for digital video, audio and data communications.

Yada (US 5,748,669) discloses a method and apparatus for transmitting information converted to spread spectrum signal.

Art Unit: 2616


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ST

April 16, 2007


CHI PHAM
SUPERVISORY PATENT EXAMINER

4/16/07